



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/542,775	08/05/2005	Norio Yamaguchi	05098	8870
23338 7590 03/19/2008 DENNISON, SCHULTZ & MACDONALD 1727 KING STREET SUITE 105 ALEXANDRIA, VA 22314				
EXAMINER				
KURTZ, BENJAMIN M				
ART UNIT		PAPER NUMBER		
1797				
MAIL DATE		DELIVERY MODE		
03/19/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/542,775

Applicant(s)

YAMAGUCHI ET AL.

Examiner

BENJAMIN KURTZ

Art Unit

1797

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 July 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-8508)
- Paper No(s)/Mail Date 7/05
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claim 1 is objected to because of the following informalities: There is a typographical error in line 1 and the claim should read, "A catalyst module **having a waste liquid...**" Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "whose partition wall" in line 2. There is insufficient antecedent basis for this limitation in the claim. For examination purposes the catalyst module is assumed to have a partition wall.

Claims 19 and 20 contain the same lack of antecedent basis as claim 1.

Claims 2-18 are rejected as depending from claim 1.

Claim Rejections - 35 USC § 102 and 103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 1797

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, 5, 14 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Shimazaki US 4 576 929.

Regarding claim 1 Shimazaki teaches a catalyst module having a waste liquid inlet passage and a partition wall formed of a fibrous activated carbon wherein, the fibrous activated carbon is impregnated with a catalyst (fig. 1-7, claims 1-11). How waste liquid is treated is a process step that does not add any structural limitations to the apparatus.

Regarding claims 2 and 5, Shimazaki further teaches wherein a plurality of waste liquid inlet passages are arranged in a form of a bundle (fig. 6), the passages being the spaces between the folds; the fibrous activated carbon is impregnated with silver (claim 11).

Regarding claims 14 and 15, Shimazaki further teaches a waste liquid treatment apparatus comprising a waste liquid treatment tank capable of holding a catalyst module of claim 1 (fig. 1-7). How the waste liquid storage tank operates is a process limitation and does not further structurally limit the apparatus.

4. Claims 8, 12, 13, 16, 17 and 19 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Shimazaki '929.

Regarding claim 8, Shimazaki teaches the partition wall is formed of a fibrous activated carbon layer in the form of sheets (fig. 1-7, example 3). The process of making the sheets by lamination is a product by process limitation. "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 227 USDQ 964 (1985). The process of making the sheets according to Shimazaki is deemed a structural alternative to the lamination process disclosed herein.

Regarding claims 12 and 13, an inlet port is provided at a lower end of the inlet passage and an end of the waste liquid inlet passage opposite to the inlet port is closed (fig. 7); and the fibrous activated carbon is impregnated with silver (claim 11).

Regarding claims 16 and 17, Shimazaki further teaches a waste liquid treatment apparatus comprising a waste liquid treatment tank capable of holding a catalyst module of claim 1 (fig. 1-7). How the waste liquid storage tank operates is a process limitation and does not further structurally limit the apparatus.

Regarding claim 19, Shimazaki teaches a catalyst module having a waste liquid inlet passage with a partition wall formed of fibrous activated carbon wherein, the fibrous activated carbon is impregnated with silver, the partition wall is formed of fibrous activated carbon layer in the form of sheets, the waste liquid inlet surrounds a liquid permeable core member (fig. 5, claim 1-11). How waste liquid is treated is a process step that does not add any structural limitations to the apparatus. The process of making the sheets by lamination is a product by process limitation. "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 227 USDQ 964 (1985). The process of making the sheets according to Shimazaki is deemed a structural alternative to the lamination process disclosed herein.

5. Claims 2-4, 6 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimazaki '929 in view of Eguchi et al. US 5 518 620.

Regarding claims 2-4, Shimazaki teaches the filtering material of claim 1 but does not teach the claimed orientation of the material in claims 3 and 4. Eguchi teaches a fibrous activated carbon partition wall having a plurality of waste liquid inlet passages arranged in a form of a bundle, each inlet passage are formed between a first partition wall formed to have a wavy section and a second partition wall arranged to follow on

Art Unit: 1797

side of the first partition wall (fig. 2a and b), wherein the first partition wall and the second partition wall are arranged spirally (fig. 2b). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the configuration of Eguchi for the material of Shimazaki because this configuration provides no clogging of the packing medium even when the material is packed at a high specific surface area making operation over a long period of time possible (col. 7, lines 14-26).

Regarding claim 6, Eguchi further teaches an outer periphery and is formed of a material (8) inhibiting passage of liquid (fig. 1).

Regarding claim 9, Shimazaki teaches the module of claim 8 but does not teach the partition wall comprising a projecting part. Eguchi teaches a fibrous activated carbon partition wall having a projecting part (62) projecting into a waste liquid inlet passage (fig. 3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the projecting part of Eguchi because it provides for a spacing between layers of material allowing fluid to easily pass through the module (col. 7, lines 14-36).

6. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shimazaki '929.

Regarding claim 18, Shimazaki teaches the apparatus of claim 15 but does not teach a plurality of modules in parallel with an inflow direction. Providing multiple modules in a parallel orientation would have been obvious to one of ordinary skill in the art at the time the invention was made as it provides a larger surface area for filtration.

Also, mere duplication of parts does not provide patentable significance. Mere duplication of parts has no patentable significance unless a new and unexpected result is produced, *In re Harza*, 124 USPQ 378 (1960).

7. Claims 10, 11 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimazaki '929 in view of Kazuhisa JP 11-244672 or Eskes US 6 371 307.

Regarding claims 10 and 11, Shimazaki teaches the module of claim 8 but does not teach the sheets being formed in a bag shape or having a mesh member between sheets. Kazuhisa teaches a fibrous partition wall (13) in the form of sheets and are formed into a bag comprising an open end and a mesh member (11) arranged between the sheet forms (fig. 1). Eskes also teaches a fibrous partition wall in the form of sheets formed into a bag comprising an open end and a mesh member (120) arranged between the sheets (fig. 1b). This configuration is well known in the art and would have been obvious to one of ordinary skill in the art at the time the invention was made because it allows for more surface area of the filter to be used and the mesh member keeps the internal passage open so fluid may easily flow through.

Regarding claim 20, Shimazaki teaches a catalyst module having a waste liquid inlet passage, the module having a partition wall formed of a fibrous activated carbon wherein, the fibrous activated carbon is impregnated with silver and the fibrous activated carbon is in the form of a sheet (fig. 1-7, claims 1-11). Shimazaki does not teach the sheets form a bag or mesh member located in the bag. How waste liquid is treated is a process step that does not add any structural limitations to the apparatus.

Art Unit: 1797

Kazuhisa teaches a fibrous partition wall (13) in the form of sheets and are formed into a bag comprising an open end and a mesh member (11) arranged between the sheet forms (fig. 1). Eskes also teaches a fibrous partition wall in the form of sheets formed into a bag comprising an open end and a mesh member (120) arranged between the sheets (fig. 1b). This configuration is well known in the art and would have been obvious to one of ordinary skill in the art at the time the invention was made because it allows for more surface area of the filter to be used and the mesh member keeps the internal passage open so fluid may easily flow through.

8. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shimazaki '929 in view of Eguchi '620 as applied to claim 6 above, and further in view of Klein US 4 531 954.

Shimazaki in view of Eguchi teaches the module of claim 6 but does not teach the surface layer inhibiting the passage of liquid and allowing the passage of a gas. Klein teaches a module having a filter membrane (5) having a surface layer (6, 6a) surrounding an outer periphery of the of the waste inlet the surface layer formed of a material inhibiting the passage of liquid and allowing passage of a gas (col. 7, lines 4-11). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the surface layer of Klein because it involves low manufacturing costs for separating gasses from the liquid flow (co. 2, line 64 – col. 3, line 6)

Art Unit: 1797

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BENJAMIN KURTZ whose telephone number is (571)272-8211. The examiner can normally be reached on Monday through Friday 8:00am to 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Sample can be reached on 571-272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Benjamin Kurtz
Examiner
Art Unit 1797

3/11/08 /BK/

/Krishnan S Menon/
Primary Examiner, Art Unit 1797